

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/520,411

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Upon entry of this Amendment, claims 1-13 are pending in the application with claims 8-13 withdrawn from consideration as being directed to a non-elected invention. Applicant respectfully submits that the pending claims define patentable subject matter.

I. Rejection under 35 U.S.C. § 112, second paragraph

Claims 1-7 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because the Examiner asserts that the term “racetrack-shaped cross section” is unclear. By this Amendment, Applicant has amended the claims to improve clarity by replacing the phrase “said slot-housed portions are formed with a racetrack-shaped cross section” with “said slot-housed portions are formed with a cross section having first and second opposing sides which are straight along their length and third and fourth opposing sides which are curved along their length.”¹ Accordingly, the Examiner is requested to remove the § 112, second paragraph, rejection.

¹ See, for example, FIGS. 1 and 4 of the present application.

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II. Rejections under 35 U.S.C. § 103

Claims 1-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Asao et al. (USP 6,049,154) in view of Kurihashi et al. (JP 63-194543; hereafter “Kurihashi”). Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Asao in view of Kurihashi and Kneisley et al. (USP 5,166,567; hereafter “Kneisley”). Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Asao in view of Kurihashi and Larsh (USP 3,028,266). Applicant respectfully submits that claims 1-7 would not have been rendered obvious in view of the combined references.

With regard to independent claim 1, the Examiner cites Kurihashi for allegedly disclosing “said slot-housed portions are formed with a rectangular-shaped cross section, and are housed so as to line up in at least one column in a radial direction with a longitudinal direction of said cross section aligned in a circumferential direction so as to be in close contact with each other.”²

However, Applicant respectfully submits that it is quite clear that Kurihashi does not teach or suggest “said slot-housed portions are formed with a cross section having first and second opposing sides which are straight along their length and third and fourth opposing sides which are curved along their length”, as recited in amended claim 1.

As discussed on pages 1-4 of the present application, Kurihashi teaches deforming the slot-housed portions into a rectangular cross section. As shown in FIG. 14., because first and

² As discussed at page 2 of the Office Action, the Examiner has construed the claims to require the slot-housed portions are formed with a “rectangular-shaped” cross section. However, the slot-housed portions of the stator winding of the present invention do not have a “rectangular-shaped” cross section. Instead, the slot-housed portions have a cross section with sides which are curved along their length, i.e., a racetrack shape.

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second circumferential sides of the slot-housed portions 12a are restricted by slides 14 and a stopper 15 of a press forming machine 13 when the slot-housed portions 12a are deformed by pressing, the flattened slot-housed portions 12a are deformed into a generally rectangular cross section with short sides also becoming flat surfaces. As a result, corner portions are formed on the short sides of the flattened slot-housed portions 12a, and when the slot-housed portions 12a are inserted into the slots 3, the corner portions of the slot-housed portions 12a rub against the inner circumferential side surfaces of the slots 3, damaging an electrically-insulating coating on the conductor wires 11, thereby making electrical insulation properties poor.

On the other hand, according to the present invention, the slot-housed portions have a racetrack shape such that opposing short sides are convex/curved along their length and opposing long sides are straight along their length. As shown in FIG. 4, the slot-housed portions 32a are interposed between flat pressing plates 41 and pressed from first and second sides by a pair of pushers 40. Because the short sides of the racetrack-shaped cross section (the direction of expansion) are not restricted when the slot-housed portions 32a is shaped into the racetrack-shaped cross section, the short sides of the slot-housed portions 32a' become a convex curved surface shape, enabling damage to the electrically-insulating coating occurring when the slot-housed portions 30a are inserted into the slots 21c to be suppressed.

Further, Applicant respectfully submits that Asao, Kneisley and Larsh do not teach or suggest the above-described features of claim 1 which are missing from Kurihashi.

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Accordingly, Applicant respectfully submits that independent claim 1, as well as dependent claims 2-7, should be allowable because the cited references, alone or in combination, do not teach or suggest all of the features of the claims.

III. Obviousness-type double patenting rejection

Claims 1-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of Oohashi et al. (USP 6,960,857; hereafter “Oohashi”) in view of Kurihashi and Larsh. Applicant respectfully traverses the double patenting rejection.

Claims 1-8 of Oohashi simply recite that each of the slot-housed portions are “formed with a flat cross section”. That is, similar to Kurihashi, Oohashi teaches that the slot-housed portions of the winding have a rectangular shape (see column 8, lines 28-30). Accordingly, Applicant respectfully submits that claims 1-8 of Oohashi do not teach or suggest “said slot-housed portions are formed with a cross section having first and second opposing sides which are straight along their length and third and fourth opposing sides which are curved along their length”, as recited in amended claim 1.

Further, Applicant respectfully submits that Kurihashi and Larsh do not teach or suggest the above-described features of claim 1 which are missing from the claims of Oohashi.

Accordingly, Applicant respectfully submits that independent claim 1, as well as dependent claims 2-7, should be allowable because the cited references, alone or in combination, do not teach or suggest all of the features of the claims.

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IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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